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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HO, DUC CHI

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/762,623	Applicant(s) PEDERSEN ET AL.	
	Examiner Duc C. Ho	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Allowable Subject Matter

1. The indicated allowability of claims 5-7, 15, and 19-20 are withdrawn in view of the newly discovered reference(s) to Hansen(US 7,349,345) and Xu (US 2004/0052263). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by over Hansen et al. (US 7,349,345), hereinafter referred to as Hansen.

Regarding claim 1, Hansen discloses method and apparatus for testing communications between a network edge device and a customer premises device. In the line test system of fig.3, the DSLAM 12 is an intermediate node; the end nodes are the telephone 18 and the service node 4-fig.3. The transmission medium between the DSLAM 12-fig.3 and the test telephone 24 is the ATM, and between the DSLAM and the telephone 18-fig.3 is the Ethernet (twisted copper pair of wires), see col. 3, lines 1-10.

executing a first loop-back test between the intermediate node and the first end node according to a standard of the first transmission medium (Test technicians at

remote operation center could send a command to execute a loop back test. Data transmission from DSLAM test port 30, through the loop back converter 26, back to DSLAM test port 32 to a test telephone 24-fig.3, see col. 4-line 65 to col.5-line 28); and

executing a second loop-back test between the intermediate node and the second end node according to a standard of the second transmission medium (Test technicians can emulate the connection between the DSLAM 12 and the telephone 18-fig.3 for a loop back test as described above, see col.5, lines 24-28).

Regarding claim 8, in Hansen the control center fig. 4 is capable of receiving the reporting of the results of the first and the second loop-back tests from the DSLAM 12-fig.4.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen, in view of the admitted prior art of the instant application in paragraph [0002-0004], hereinafter referred to as the APA.

Regarding claim 2, Hansen discloses all claimed limitations, except executing a first loop-back in the Internet Protocol Digital Subscriber Line Access Multiplexer (IPDSLAM) by sending an ATM test signal on a virtual channel from the IPDSLAM to the first end node.

The APA discloses a CPE on one side of the DSLAM and a Broadband Remote Access Server (BBRAS) on the other side of the DSLAM. The transmission medium on both side of the DSLAM is based on the ATM standard. When a customer has a complaint, operators normally execute a loop-back command for testing the ATM virtual circuit towards the CPE, see 0003 .

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a loop-back test by sending an ATM signal as taught by the APA into the system of Hansen. The suggestion/motivation for doing so would have been to verify whether there had been a problem in the ATM transmission medium link between the DSLAM and the customer end node when customer having a complaint.

Regarding claim 9, in Hansen the control center fig. 4 is capable of communicating with the DSLAM 12-fig.4, and the control center communicates with the

DSLAM to have the loop-back test to the end nodes and the DSLAM is capable of reporting of the results of the first and the second loop-back tests to the control center.

Regarding claim 10, in the APA the customer complaint received on a per service basis from one of a plurality of service providers.

7. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen, in view of the APA, and further in view of Xu (US 2004/0052263).

Regarding claim 3, Hansen and the APA disclose all claimed limitations, except sending an ATM signal includes sending an F5 operations and maintenance loop-back test signal from the IPDSLAM to the CPE.

Xu discloses method and apparatus for automatically detecting virtual circuit settings and encapsulation types in a DSL network. In Xu an OAM F5 loopback test is used to determine whether a DSL loop is working properly, see 0031-0033.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a loop-back test by sending an ATM signal that includes an F5 loop-back test signal as taught by the APA and Xu into the system of Hansen. The suggestion/motivation for doing so would have been to verify whether there had been a problem in the ATM transmission medium link between the DSLAM and the customer end node with respect to the chosen VPI/VCI when customer having a complaint.

Regarding claim 4, please see the rejection of claim 3. In Hansen the test phone 24-fig.3 is the device that receives the F5 operations and maintenance loop-back test signal.

Regarding claim 5, Hansen and Xu disclose all claimed limitations, except executing a second loop-back test includes initiating a second loop-back test in the

IPDSLAM by sending a Point-to-Point Protocol over Ethernet (PPPoE) test signal from the IPDSLAM to the second end node.

Xu discloses method and apparatus for automatically detecting virtual circuit settings and encapsulation types in a DSL network. In Xu the point-to-point protocol as defined in RFC 1661 could be used over Ethernet (PPPoE), see 0039-0041.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a second loop back test by sending a PPPoE as taught by Xu into the system of Hansen and the APA. The suggestion/motivation for doing so would have been to verify whether there had been a problem in the Ethernet transmission medium link between the DSLAM and the customer end node when customer having a complaint.

Regarding claim 6, Hansen and the APA discloses all claimed limitations, except initiating a second loop-back test in the IPDSLAM includes broadcasting a PPPoE Active Discovery Initiation (PADI) packet from the IPDSLAM toward an Ethernet network in which the BBRAS is located.

Xu discloses method and apparatus for automatically detecting virtual circuit settings and encapsulation types in a DSL network. In Xu PPPoE Active Discovery initiation (PADI) is taught, see 0041-0043.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine PADI as taught by XU into the system of Hansen and the APA. The suggestion/motivation for doing so would have been to verify whether there had been a problem in the Ethernet transmission medium link between the DSLAM and BBRAS when customer having a complaint.

Regarding claim 7, please see the rejection of claim 6. Xu discloses PADO, see 0043-0044.

8. Claims 13, 16-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen, in view of Xu.

Regarding claim 13, Hansen discloses all claimed limitations, except means in the first end node and in the second end node for sending a response to the immediate node upon successfully receiving the second loop-back test message.

Xu discloses method and apparatus for automatically detecting virtual circuit settings and encapsulation types in a DSL network. In Xu OAM loopback request is sent to different VPI/VCI pairs until a valid loopback reply is received, see abstract. In other words, there is a circuitry in the end nodes that replies to the OAM loopback request.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to employ a circuitry replying to a loop-back test message as taught by Xu into the system of Hansen. The suggestion/motivation for doing so would have been to prevent the intermediate node to send different VPI/VCI pairs to the end points if a valid reply is not received from the end points.

Regarding claim 16, in Hansen the control center fig. 4 is capable of communicating with the DSLAM 12-fig.4, and the control center communicates with the DSLAM to have the loop-back test to the end nodes and the DSLAM is capable of reporting of the results of the first and the second loop-back tests to the control center.

Regarding claim 17, the control center is capable functioning as a customer care center to receive the customer complaints and perform the loop-back test to identify the problem's location.

Regarding claim 18, this claim has similar limitations as claim 13. Therefore, it is rejected under Hansen-Xu for the same reasons set forth in the rejection of claim 13.

Regarding claim 19, in Hansen the DSLAM 12-fig.4 functions as a IPDSLAM, and the first transmission medium being the ATM (supporting ATM data), the second transmission medium being the Ethernet (twisted copper pair of wires), see col. 3, lines 1-10.

Regarding claim 21, this claim has similar limitations as claim 16. Therefore, it is rejected under Hansen-Xu for the same reasons set forth in the rejection of claim 16.

9. Claims 14-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen, in view of Xu, and further in view of the APA.

Regarding claim 14, Hansen and Xu disclose all claimed limitations, except the second end node is a BBRAS and the intermediate node is an (IPDSLAM).

The APA discloses a second end node being a BBRAS and the intermediate node being a DSLAM that is capable of processing Internet Protocol, see 0002-0003.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to employ an end node as a BBRAS and an intermediate node as a IPDSLAM as taught by the APA into the combination system of Hansen and Xu.

The suggestion/motivation for doing so would have been to provide broadband services based on Digital Subscriber Line Access Multiplexer (DSLAM), a device that takes a number of DSL subscriber lines and concentrates them onto a single ATM line.

Regarding claim 15, Hansen discloses a second transmission medium being the Ethernet, see col. 3, lines 1-10.

Regarding claim 20, this claim has similar limitations as claim 15. Therefore, it is rejected under Hansen-Xu-the APA for the same reasons set forth in the rejection of claim 15. In the APA one end node is the CPE, and the other end node is the BBRAS.

Response to Arguments

10. Applicant's arguments with respect to claims 1-4, 8-10, 13-14, 16-18 and 21 have been considered but are moot in view of the new ground(s) of rejection.

Allowable subject matter

11. Claims 11-12 are allowed.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (571) 272-3147. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

/Duc C Ho/

Primary Examiner, Art Unit 2619

6-27-08